

## VAR-AM33CustomBoard



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### Disclaimer:

SchematicS are for reference only.  
Variscite LTD provides no warranty for the use of  
these schematics.  
Schematics are subject to change without notice.

## Revision History

Rev 1.0	Initial
Rev 1.02	Major changes: LCD buffer added for SOM protection GPMC mux changed Back light connector added LVDS connector pinout change
Rev 1.02A	Compatible to DVK with wired 1.02 PCB , refer to Ver 1.1 as a design reference
Rev 1.11	Major changes: VAR-SOM-AMM33 GPIO3_9 Replaced with GPIO3_4 USB Power limiter to 5V G.PHY 125Mhz clock topology update BUS Mux IC changed to resistor assembly option User button added G.PHY external delay lines added
Rev 1.11 A	10K pull up on GPMC CLK , added . Indicating 1.11 PCB revision
Rev 1.11 B	VAR-SOM-AM33 Pin 105,130- connected to GND Adding RX1 in parallel to D4 - Setting USB ID pin to 1.8V Max Do not use UART1 / MMC1 in case of on-som Wifi/BT module presense notification USB power distribution pull ups removed. USB port 4 power distribution fixed.
Rev 1.11 C	VAR-SOM-AM33 symbol pin 72 updated SPI1 muxing recommendation fix
Rev 1.11 D	VAR-SOM-AM33 pin 60 is N.C
Rev 1.11 E	I2C1 pull-ups not required MMC0_CMD pulled-up
Rev 1.11 F	L3 changed to 15uH
Rev 1.11 G	R11 / R12 changed to 100nf. Working as diffrential pairs fits TI original Alsamixer settings, both in Linux and Android
Rev 1.21	USB OTG scheme chagned, according to revised TI datasheet

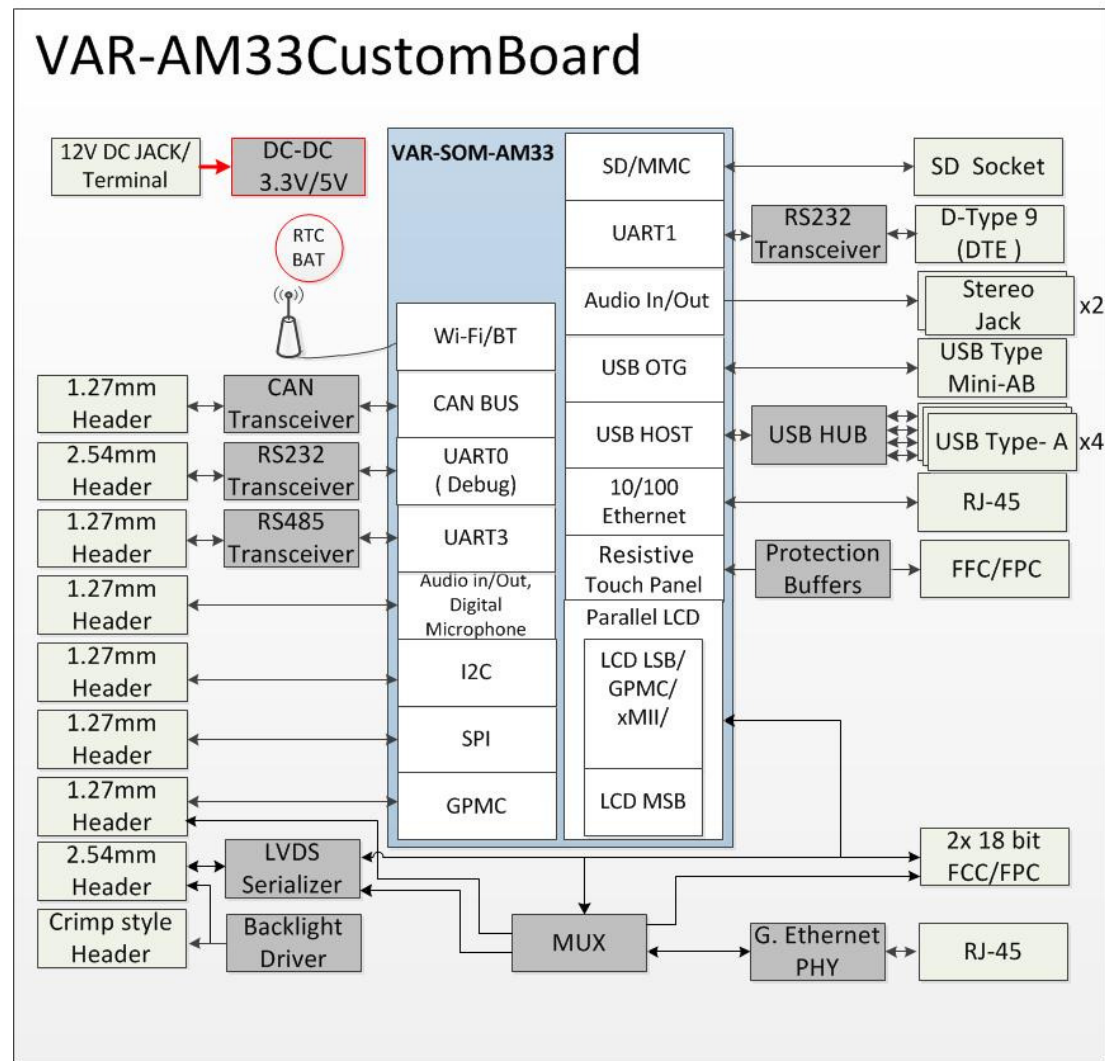
VPC1



PCB

Title 01. Cover			
Size A3	Document Number VAR-AM33Customboard	Project VAR-AM33Customboard	Rev 1.2
Designer: <Designer>		Approved By: <Approved By>	
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## 02 - Block Diagram

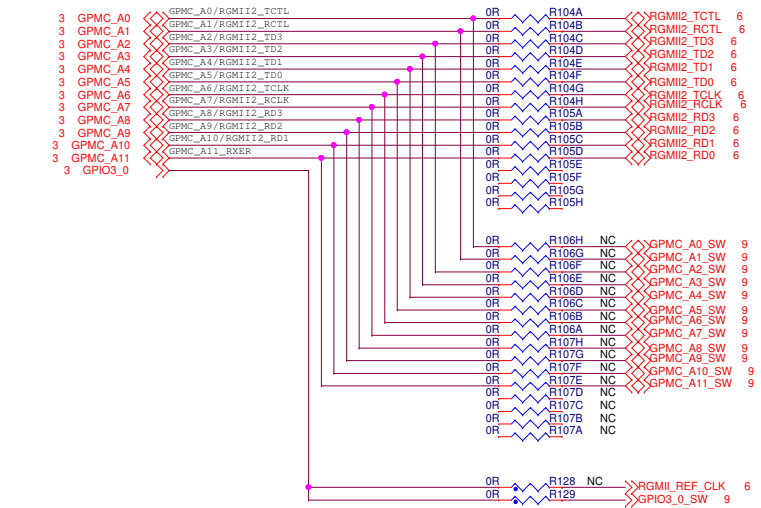


03. VAR-SOM-AM33

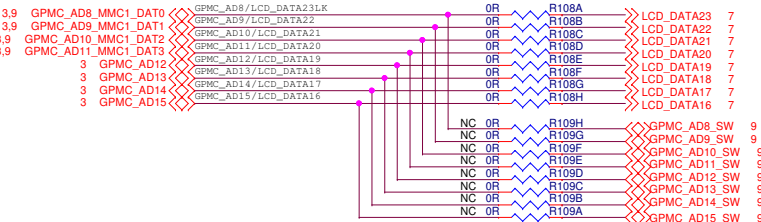


04. BUS MUXING ,Display Buffer

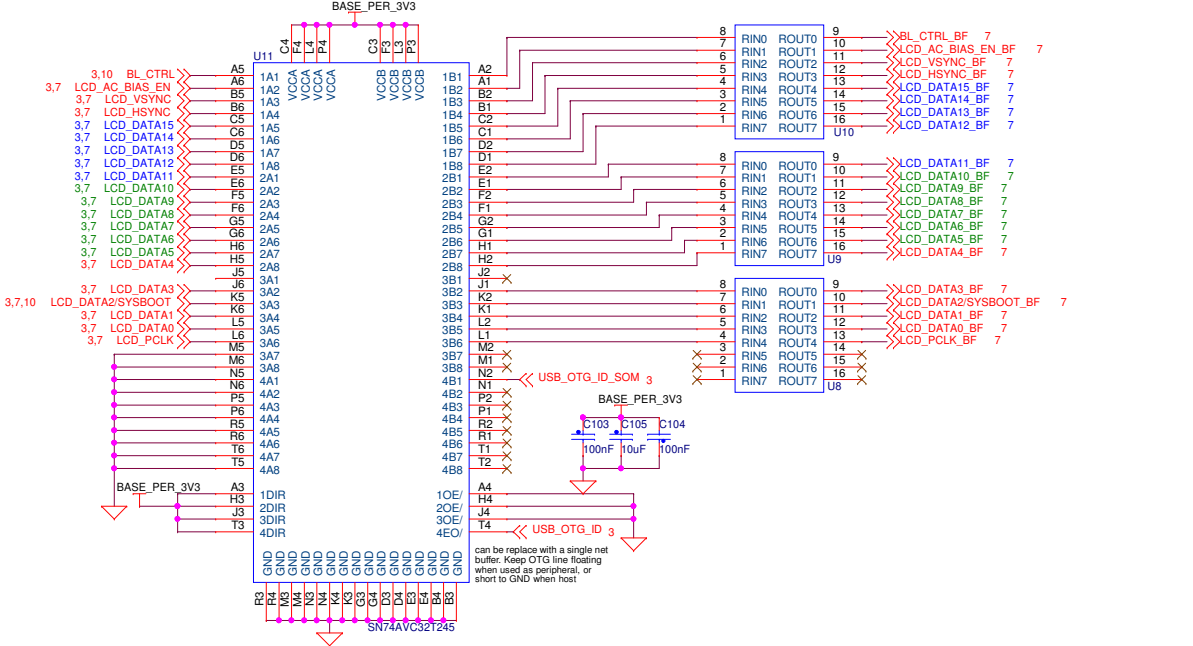
BYTE0,1: RGMII2 \ GPMC




LCD LSB \ GPMC



Display Buffer



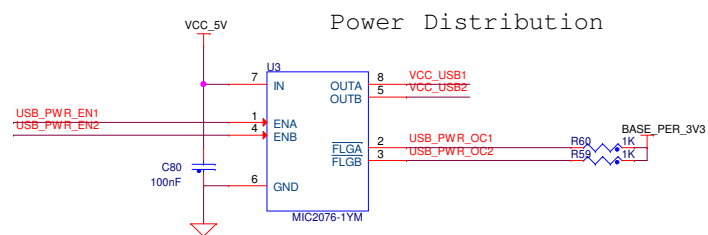
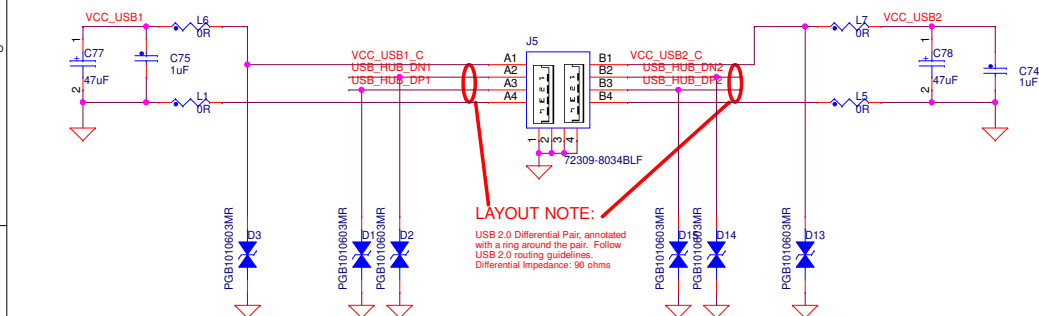


04. BUS MUXING ,Display Buffer

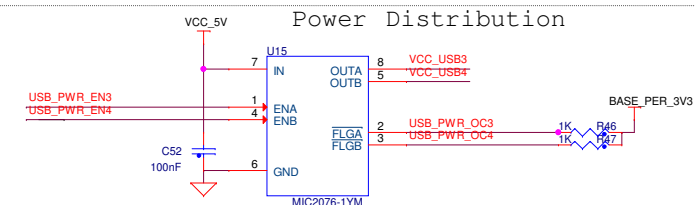
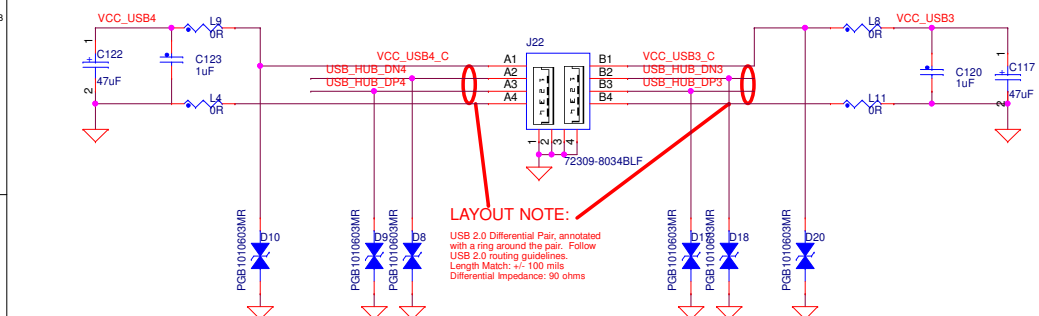
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## 5. USB

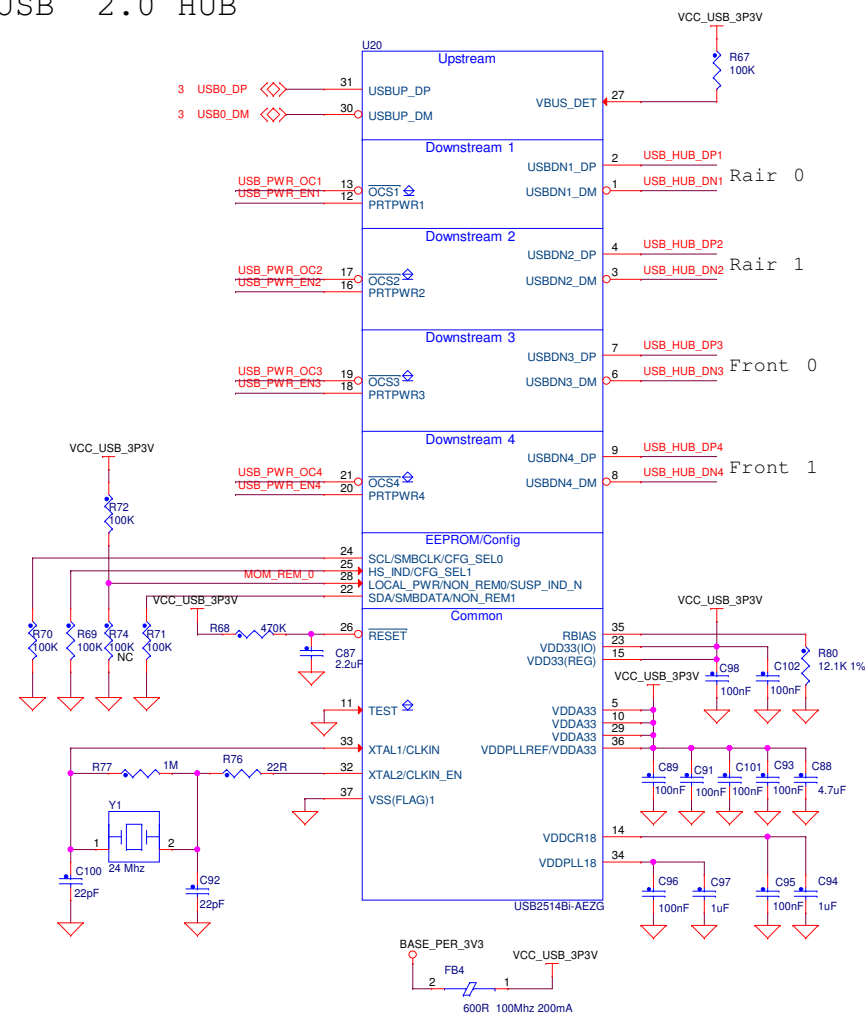
USB PORT 1-2 : 2 x USB 2.0 Host-Dual Type A  
Rear Panel



USB PORT 3-4 : 2 x USB 2.0 Host-Dual Type A  
Front Panel

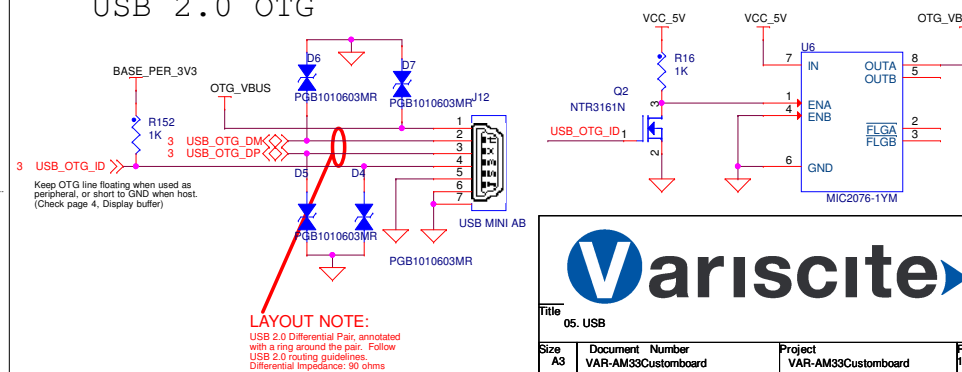


USB 2.0 HUB



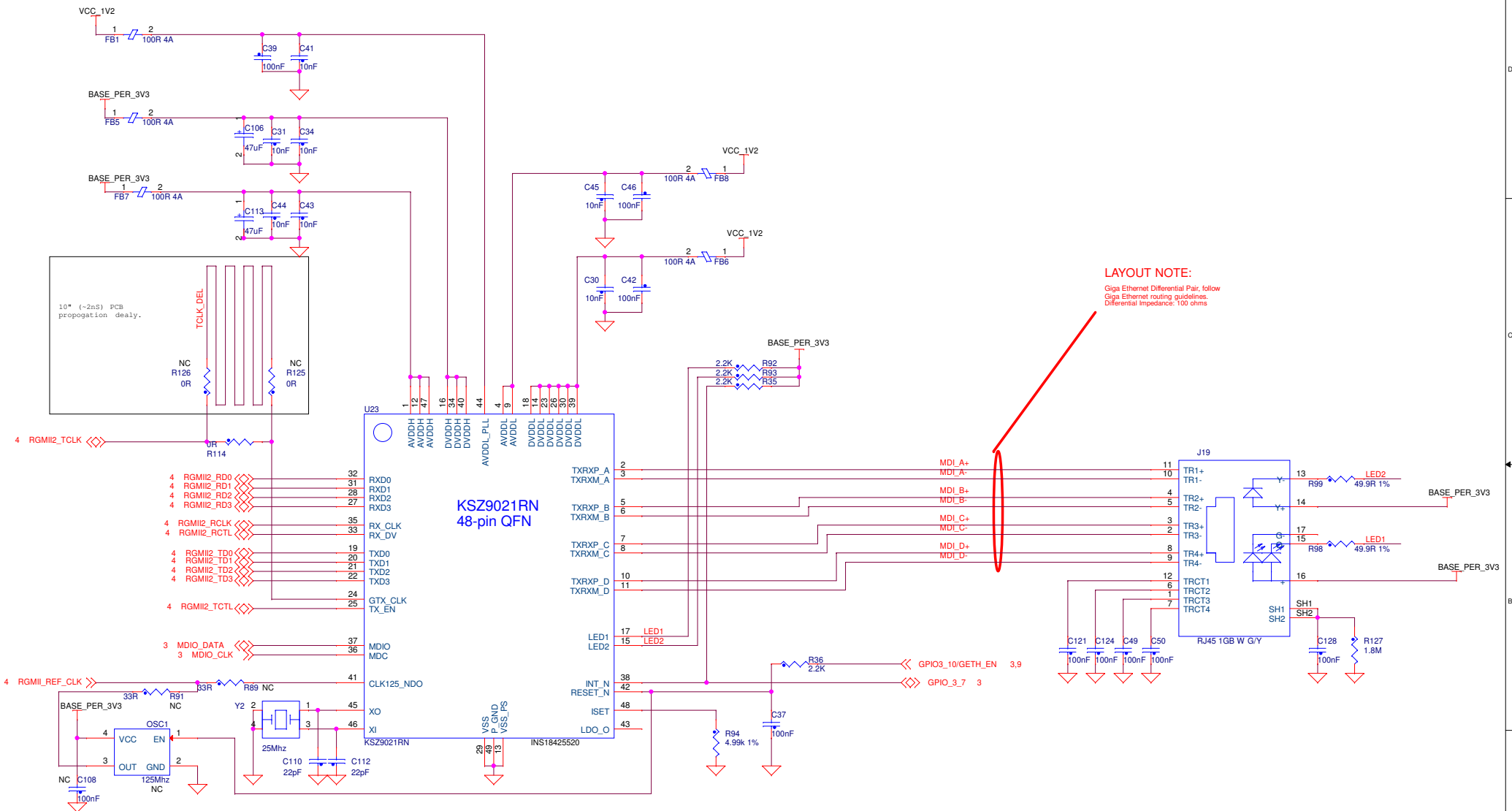
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USB 2.0 OTG



Title 05. USB			
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06. G. Ethernet



Title 06. G. Ethernet			
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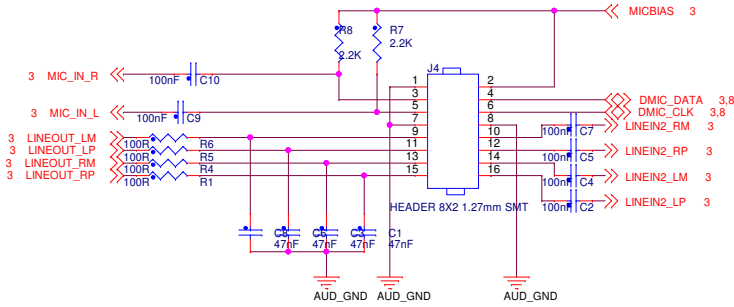




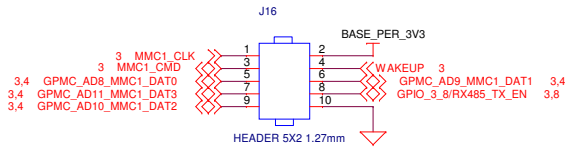


# 09. DVK Exp. Connectors

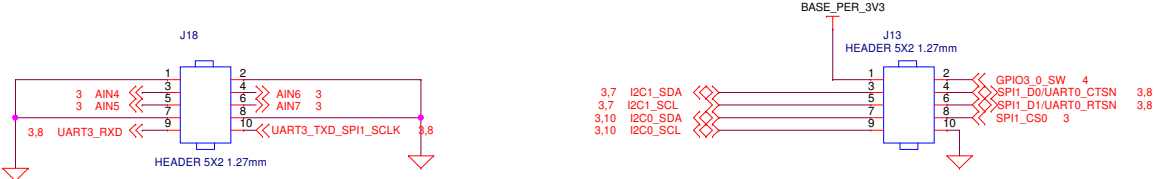
## AUDIO



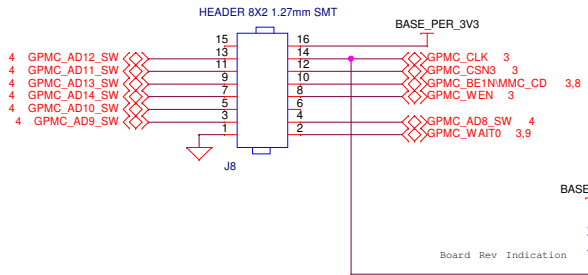
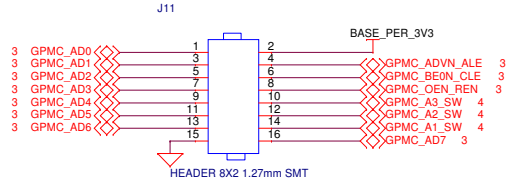
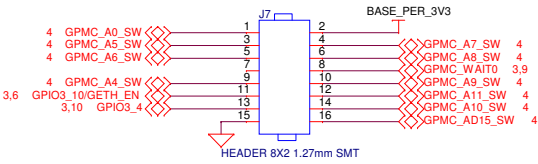
## SD/MMC



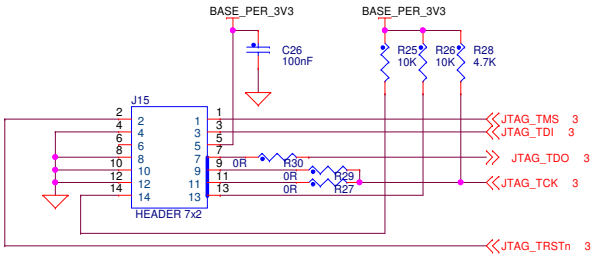
## Analog Inputs / UART3 / SPI / I2C



## GPMC



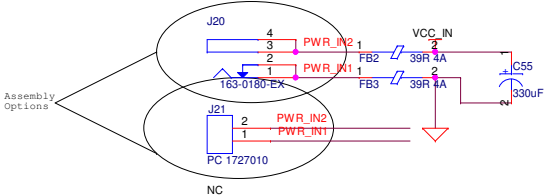
## JTAG



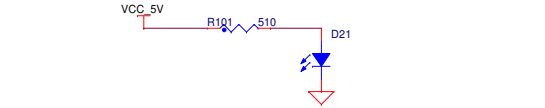
Title 10. DVK Exp. Connectors			
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11. Power & Mechanics

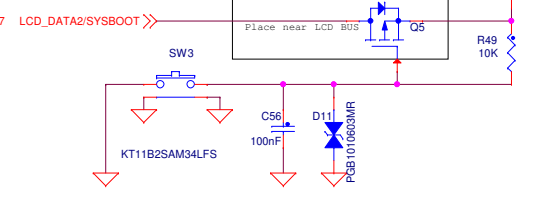
VCC-IN - 7.5- 12V



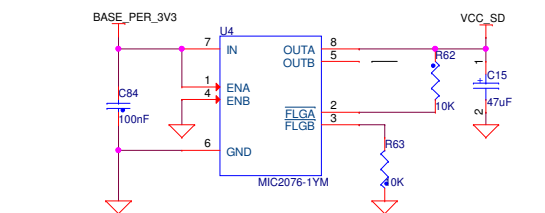
Main Power LED



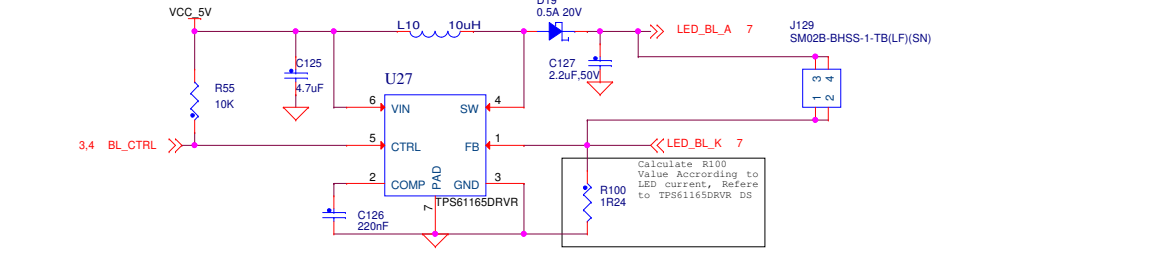
Sys-boot



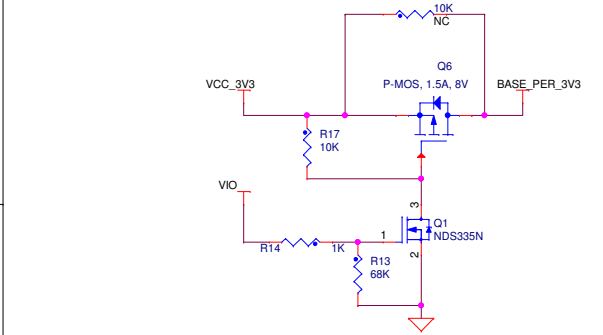
SD card Power supply



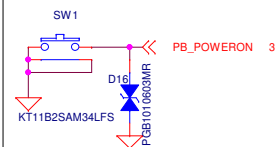
LCD Backlight Driver



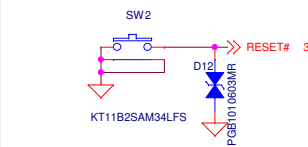
Peripherals Power



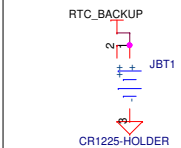
Power On



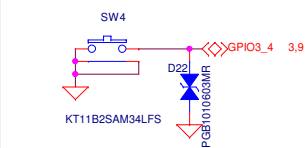
Reset



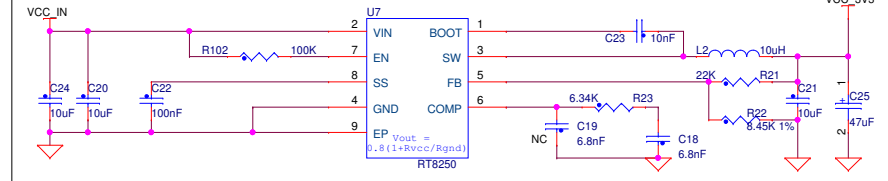
RTC Backup Battery



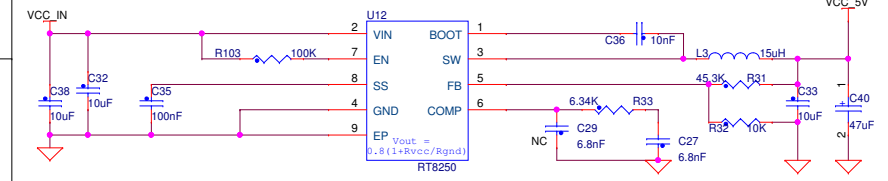
User button



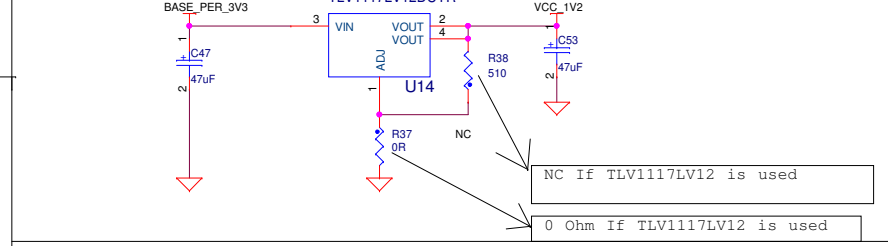
3.3V Digital 3A



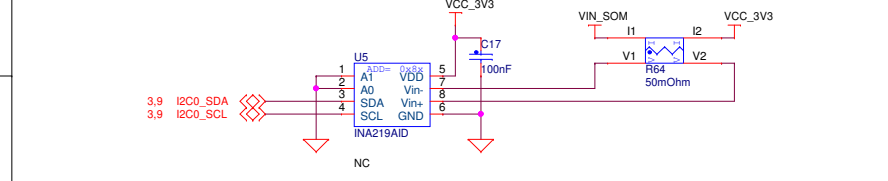
5V Digital 3A



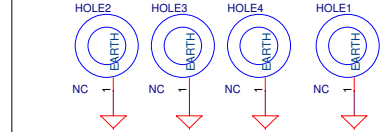
G. Ethernet PHY Power 0.5A @ 1V2



Current Monitor



4 X Chassis Holes



**Variscite**

Title: 11. Power & Mechanics

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